

IN THE CLAIMS

This listing of claims replaces all prior listings:

1. (Currently Amended) A magnetic recording head for a helical scan type magnetic recording/reproducing apparatus comprising:
 - a multi-gap recording head formed by laminating “n” recording heads and having “n” recording gaps, said “n” being an integer greater than 2,
 - wherein,
 - said “n” recording gaps are wider than a track pitch and partially overlap each other in a pitched manner along a width direction of the recording head so as to record a pattern of juxtaposed tracks; and
 - a gap for recording the last track among “n” recording gaps of said multi-gap recording head being wider than other gaps.

2. (Currently Amended) A rotary drum unit for a helical scan type magnetic recording/reproducing apparatus comprising:
 - a recording head;
 - a reproducing head; and
 - a unit for transmitting recording and reproduced signals,
 - wherein,
 - said recording head comprises a multi-gap recording head formed by laminating “n” recording heads and having “n” recording gaps,
 - said “n” recording gaps are wider than a track pitch and partially overlap each other in a pitched manner along a width direction of the recording head so as to record a pattern of juxtaposed tracks; and
 - said “n” being an integer greater than 2, and
 - a gap for recording the last track among “n” recording gaps of said multi-gap recording head being wider than other gaps.

3. (Previously Presented) The rotary drum unit according to claim 2, further comprising:
two multi-gap reproducing heads, each formed by laminating “n” reproducing heads and having “n” reproducing gaps, are arranged at an angle of 180° to each other.

4. (Previously Presented) The rotary drum unit according to claim 2, wherein:
the multi-gap reproducing head is formed by laminating “n” recording heads has “2n” reproducing gaps, and is arranged at an angle of 180° to said multi-gap recording head.

5. (Currently Amended) A rotary drum unit capable of recording “n” tracks per rotation, comprising:
two multi-gap reproducing heads each formed by laminating “n” reproducing heads, and having $(n+m)$ “ $n+m$ ” reproducing gaps, and each of the reproducing heads having a head width which is $1/2$ of a track width or less,
wherein,
said n being an integer greater than 2 and m being an integer greater than or equal to 1, respectively.

6. (Currently Amended) A rotary drum unit capable of recording “n” tracks per rotation, comprising:
a multi-gap reproducing head formed by laminating $(2n+m)$ “ $2n+m$ ” reproducing heads, and
having $(2n+m)$ “ $2n+m$ ” reproducing gaps, and each of the reproducing heads having a head width which is $1/2$ of a track width or less,
wherein,
said n being an integer greater than 2 and m being an integer greater than or equal to 1.

7. (Currently Amended) A magnetic recording method for a helical scan type magnetic recording/reproducing apparatus, said apparatus includes a multi-gap recording head formed by laminating “n” recording heads and having “n” recording gaps, said “n” being an

integer greater than 2, and said "n" recording gaps are wider than a track pitch and partially overlap each other in a pitched manner along a width direction of the recording head so as to record a pattern of juxtaposed tracks; ~~and~~ and a gap for recording the last one of said tracks among "n" gaps of multi-gap recording head being a wider recording gap than other gaps, said method comprising the step of:

recording said tracks by determining a tape running speed such that a minimum recorded track width can be ensured when said multi-gap recording head overwrites after one rotation of recording completed by said gap.

8. (Previously Presented) A magnetic recording/reproducing method according to claim 7, further comprising the step of:

reproducing signals recorded in the recording step by a multi-gap reproducing head formed by laminating multiple reproducing heads and having a head width which is 1/2 of a track width or less,

wherein,

two multi-gap reproducing heads each having "n" gaps are arranged at an angle of 180° to each other on a rotary drum as said multi-gap reproducing head, and

said two multi-gap reproducing heads are switched on said rotary drum to transmit reproduced signals therefrom via a rotary transformer having "n" recording channels and "n" reproducing channels.

9. (Previously Presented) A magnetic recording/reproducing method according to claim 7, further comprising the step of:

reproducing signals recorded by the recording step by a multi-gap reproducing head formed by laminating multiple reproducing heads and having a head width which is 1/2 of a track width or less,

wherein,

a multi-gap reproducing head having "2n" gaps is arranged at an angle of 180° to said multi-gap recording head on a rotary drum as said multi-gap reproducing head; and

said n-channel multi-gap recording head and said multi-gap reproducing head are switched on said rotary drum to transmit reproduced signals from said multi-gap reproducing head via a rotary transformer having “n” recording channels and “n” reproducing channels.

10. (Currently Amended) A magnetic recording/reproducing method according to claim 7, further comprising the step of:

reproducing said signals recorded by the recording step by two multi-gap reproducing heads, each having ~~(n+m)~~ “n+m” gaps, said “m” being an integer greater than or equal to 1.

11. (Currently Amended) A magnetic recording/reproducing method according to claim 7, further comprising the step of:

reproducing said signals recorded by the recording step by a multi-gap reproducing head having ~~(2n+m)~~ “2n+m” gaps, said “m” being an integer greater than or equal to 1.

12. (Currently Amended) A helical scan type magnetic recording/reproducing apparatus comprising:

a multi-gap recording head formed by laminating “n” recording heads and having “n” recording gaps, said “n” recording gaps are wider than a track pitch and partially overlap each other in a pitched manner along a width direction of the recording head so as to record a pattern of juxtaposed tracks; and

a gap for recording the last track among said “n” recording gaps of said multi-gap recording head being wider than other gaps to obtain a recorded pattern of narrow tracks, wherein,

said signals are reproduced by a multi-gap reproducing head having ~~(2n+m)~~ “2n+m” gaps, said multi-gap reproducing head formed by laminating $(2n+m)$ reproducing heads, and

said “n” being an integer greater than 2 and “m” being an integer greater than or equal to 1.

13. (Previously Presented) The magnetic recording/reproducing apparatus according to claim 12, further comprising:

two multi-gap reproducing heads each having “n” reproducing gaps are arranged at an angle of 180° to each other on a rotary drum.

14. (Previously Presented) The magnetic recording/reproducing apparatus according to claim 12, further comprising:

a multi-gap reproducing head having “2n” reproducing gaps is arranged at an angle of 180° to said multi-gap recording head.

15. (Currently Amended) A magnetic recording/reproducing apparatus capable of recording a pattern of “n” tracks per rotation, comprising:

two multi-gap reproducing heads each having ~~(n+m)~~ “n + m” reproducing gaps said multi-gap reproducing head formed by laminating ~~(n+m)~~ “n + m” reproducing heads, and each of the reproducing heads having a head width which is 1/2 of a track width or less,

wherein,

said “n” being an integer greater than 2 and “m” being an integer greater than or equal to 1.

16. (Currently Amended) A magnetic recording/reproducing apparatus capable of recording a pattern of “n” tracks per rotation, comprising:

a multi-gap reproducing head having ~~(2n+m)~~ “2n + m” reproducing gaps, said multi-gap reproducing head formed by laminating ~~(2n+m)~~ “2n + m” reproducing heads, and each of the reproducing heads having a head width which is 1/2 of a track width or ~~less~~, less,

wherein,

said “n” being an integer greater than 2 and “m” being an integer greater than or equal to 1.